

BASIC LIFE SUPPORT

INSTRUCTORS:

BARRETT, BULL, CHARETTE, EISENBART, FORD,
GANT, MCGOWEN, STENSRUD, VASQUEZ

REFERENCES:

AMERICAN HEART ASSOCIATION

👉 GUIDELINES FOR CARDIOPULMONARY
RESUSCITATION AND EMERGENCY CARDIAC
CARE

👉 INSTRUCTOR'S MANUAL: BASIC LIFE SUPPORT
HEALTHCARE PROVIDER MANUAL

COURSE OBJECTIVES

- ☞ PROVIDE BACKGROUND INFORMATION
- ☞ LEARN SKILLS NECESSARY TO PERFORM BLS (AHA STANDARDS).
- ☞ UPON COMPLETION OF THE COURSE
 - ☞ UNDERSTAND BACKGROUND INFO
 - ☞ DEMONSTRATE COMPETENCY IN PSYCHOMOTOR BLS TECHNIQUES
- ☞ SCORE AT LEAST 84% ON WRITTEN EXAM (50 QUESTIONS)

AMERICAN HEART ASSOCIATION

- 👉 SETS EMERGENCY CARDIAC CARE STANDARDS AND GUIDELINES
- 👉 DEVELOPS AND DISTRIBUTES MATERIALS
- 👉 DEVELOPS COMMUNITY RESOURCES

MILITARY TRAINING NETWORK

- 👉 NETWORK OF INSTALLATIONS PROVIDING INSTRUCTION
- 👉 ADMINISTERED FROM USUHS IN BETHESDA, MD
- 👉 COORDINATES TRAINING STANDARDS AND GUIDELINES BETWEEN PROPONENTS AND SITES
- 👉 MEDICAL COMPANY TRAINING SITE, FORT INDIANTOWN GAP, PA

REGISTRATION VS CERTIFICATION

☞ THE WORD CERTIFICATION WILL NOT BE USED TO IMPLY SUCCESSFUL COMPLETION OF AHA PROGRAMS

☞ COURSE PARTICIPANTS WILL BE CONSIDERED “REGISTERED”

LIABILITY STATEMENT

☞ COURSE INCLUDES PHYSICAL EXERTION, PSYCHOLOGICAL STRESS AND POSSIBILITY OF CROSS-INFECTION.

☞ IF YOU'VE RECENTLY HAD ANY TYPE OF INFECTIOUS DISEASE, TO INCLUDE UPPER RESPIRATORY INFECTION OR OPEN SORES ON YOUR MOUTH OR HANDS, IT'S IMPERATIVE THAT YOU DEFER MANNEQUIN PRACTICE UNTIL YOU ARE WELL.

INFECTION CONTROL/MANNEQUIN DECONTAMINATION



RISK FACTORS



PRECAUTIONS



RESPONSIBILITY

RISK FACTORS HIV

☞ THE RETROVIRAL AGENT KNOWN AS HIV IS COMPARATIVELY DELECATE AND INACTIVATED IN LESS THAN 10 MIN AT ROOM TEMP BY A NUMBER OF CHEMICALS, INCLUDING THE AGENT RECOMMENDED FOR MANNEQUIN DECONTAMINATION.

☞ SODIUM HYPOCHLORITE (BLEACH).

RISK FACTORS DISEASE TRANSMISSION

👉 OF THE ESTIMATED 40 MIL IN THE U.S. AND PERHAPS 150 MIL WORLDWIDE THAT HAVE BEEN TAUGHT MOUTH-TO-MOUTH RESCUE BREATHING ON MANNEQUINS IN THE LAST 25 YEARS, THERE HAS NEVER BEEN A DOCUMENTED CASE OF TRANSMISSION OF BACTERIAL, FUNGAL OR VIRAL DISEASE BY A CPR TRAINING MANNEQUIN.

PRECAUTIONS

- ☞ USE DISPOSABLE FACE SHIELDS
- ☞ PAIR INDIVIDUALS FOR PRACTICE
- ☞ ENSURE THAT A THOROUGH HAND WASH IS ALWAYS PERFORMED
- ☞ ENSURE THAT IN 2-PERSON CPR, SECOND PERSON SIMULATES THE BREATHING
- ☞ ENSURE SIMULATION OF FINGER SWEEP
- ☞ ENSURE PROPER DECONTAMINATION BETWEEN STUDENTS

RESPONSIBILITY - WHO'S IS IT?

👉 EVERYONE PARTICIPATING IN A CPR COURSE IS RESPONSIBLE TO ENSURE THAT INFECTION CONTROL/DEONTAMINATION IS FOLLOWED TO INCLUDE:

PROGRAM/CSE ADMINISTRATORS

BLS INSTRUCTORS

BLS CSE PARTICIPANTS

WHY SHOULD I LEARN CPR?

- 👉 SOMEONE YOU LOVE, KNOW OR WORK WITH HAS HEART DISEASE
- 👉 CAN PREVENT A DEATH OR DISABILITY
- 👉 TO BE A BETTER MEMBER OF COMMUNITY
- 👉 JOB REQUIRES IT

GOOD SAMARITAN LAW

LIMITATION ON LIABILITY FOR MEDICAL CARE OR ASSISTANCE IN EMERGENCY SITUATIONS

 ANY PERSON WHO IN GOOD FAITH RENDERS EMER CARE OR ASSITANCE TO AN INJURED PERSON AT THE SCENE OF AN ACCIDENT OR OTHER EMER, OUTSIDE OF A HOSPITAL, WITHOUT EXPECTATION OF RECEIVING OR INTENDING TO SEEK COMPENSATION FROM SUCH INJURED PERSON FOR SUCH SERVICE, SHALL NOT BE LIABLE IN CIVIL DAMAGES FOR ANY ACT OR OMISSION, NOT SONSTITUTING GROSS NEGLIGENCE, IN THE COURSE OF RENDERING SUCH CARE OR ASSISTANCE

MEDICAL-LEGAL CONSIDERATIONS

REASONS TO WITHHOLD CPR

- ☞ DEATH - DECAPITATION, RIGOR MORTIS, TISSUE DECOMPOSITION, EXTREME DEPENDENT LIVIDITY
- ☞ DOA - RESUSCITATE
- ☞ IRREVERSIBLE BRAIN DAMAGE - RESUSCITATE
- ☞ Pt REFUSAL - “COMPETENT” REFUSAL
- ☞ DNR - PHYSICIAN ORDERS - HAVE COPY

WITHDRAWAL OF CPR

- ☞ NON-PHYSICIAN WHO INITIATES BLS SHOULD CONTINUE UNTIL ONE OF THE FOLLOWING OCCURS:
 - ☞ RESTORATION OF CIRCULATION AND VENTILATION
 - ☞ BLS QUALIFIED INDIVIDUAL TAKES OVER CPR
 - ☞ A PHYSICIAN ASSUMES CARE
 - ☞ TRANSFER OF VICTIM TO EMS TRAINED PERSONNEL
 - ☞ RESCUER IS EXHAUSTED AND CANNOT CONTINUE

CHAIN OF SURVIVAL

 CPR ALONE IS NOT ENOUGH TO SAVE LIVES

 CPR IS A VITAL LINK IN THE CHAIN OF SURVIVAL THAT MUST BE INITIATED UNTIL MORE ADVANCED LIFE SUPPORT IS AVAILABLE

CHAIN OF SURVIVAL

 PREVENTION - NOT PART OF CHAIN

CHAIN SEQUENCE

1. EARLY ACCESS
2. EARLY CPR
3. EARLY DEFIBRILLATION
4. EARLY ADVANCED CARE

EARLY ACCESS

EARLY ACTIVATION OF EMERGENCY MEDICAL SERVICES (EMS) SYSTEM

 “CALL 911”

WHEN YOU CALL, GIVE THE FOLLOWING INFO; AND HANG UP LAST

 LOCATION - ADDRESS, LANDMARKS, ROADS

 NUMBER OF PHONE YOUR USING

 DESCRIBE WHAT HAPPENED

 NUMBER OF VICTIMS

 WHAT IS BEING DONE FOR VICTIMS

 ADULTS - PHONE FIRST

 CHILDREN/INFANTS - PHONE FAST

EARLY CPR

👉 WHEN AND HOW TO PROVIDE RESCUE BREATHING THAT WILL DELIVER AIR TO THE LUNGS OF A VICTIM SUFFERING FROM RESPIRATORY ARREST

👉 WHEN AND HOW TO PROVIDE CHEST COMPRESSIONS THAT WILL CIRCULATE THE BLOOD OF VICTIM SUFFERING FROM CARDIAC

EARLY DEFIBRILLATION

 ELECTRIC IMPULSE TO ESTABLISH A
NORMAL HEART RHYTHM - CONVERT
VENTRICULAR FIBRILLATION WHICH
PREVENTS THE HEART FROM PUMPING
BLOOD

EARLY ADVANCED CARE

- ☞ CARE WHICH CONTINUES BLS
- ☞ MORE SPECIALIZED CARE BY EMS PROFESSIONALS
- ☞ OXYGEN THERAPY/IV LINE ESTAB
 - ☞ CARDIAC DRUGS
 - ☞ CLOT BUSTERS
 - ☞ ANTICOAGULANTS

ANATOMY & PHYSIOLOGY OF THE HEART

☞ THE HEART IS A MUSCLE ABOUT THE SIZE
OF A CLENCHED FIST

☞ LOCATED IN THE CENTER OF THE CHEST
BEHIND THE BRESTBONE (STERNUM)
AND IN FRONT OF THE SPINE

A & P OF THE HEART

- ☞ THE HEART IS A DOUBLE SIDED PUMP
 - ☞ THE LEFT PUMPS OXYGENATED BLOOD TO ALL PARTS OF THE BODY - ITSELF FIRST VIA THE CORANARY ARTERIES
 - ☞ THE RIGHT SIDE PUMPS OXYGEN POOR BLOOD TO THE LUNGS WHERE CARBON DIOXIDE IS REMOVED AND OXYGEN PICKED UP
 - ☞ AT REST AN ADULT HEART PUMPS APPROX 5 LITERS OF BLOOD/MIN
 - ☞ WHEN EXERCISING AS MUCH AS 25 LETERS

A & P OF THE RESPIRATORY SYSTEM

☞ RESPIRATORY SYSTEM

☞ UPPER - ABOVE THE LARYNX

☞ NOSE, MOUTH, THROAT

☞ LOWER

☞ LARYNX, TRACHEA, BRONCHI, AVEOLI

A & P OF THE RESPIRATORY SYSTEM

- ☞ REMOVE CARBON DIOXIDE
- ☞ SUPPLY THE BODY WITH OXYGEN
 - ☞ INHALED AIR 21% OXYGEN
 - ☞ EXHALED AIR 16% OXYGEN
 - ☞ WITHOUT OXYGEN
 - ☞ 1 MIN - HEART IRRITABILITY
 - ☞ 4-6 MIN - BRAIN DAMAGE LIKELY
 - ☞ 6-10 MIN - BRAIN DAMAGE VERY LIKELY
 - ☞ 10+ MIN - IRREVERSIBLE BRAIN DAMAGE

CORONARY ARTERY DISEASE

- ☞ ATHEROSCLEROSIS

- ☞ PROGRESSIVE NARROWING OF ARTERIES

- ☞ STARTS AT AN EARLY AGE

- ☞ DEPOSITS OF FATS (CHOLESTEROL) AND EVENTUALLY CALCIUM IN WALLS OF ARTERIES

- ☞ REDUCES FLOW OF BLOOD

CORONARY ARTERY DISEASE

☞ SHOWS UP IN THREE WAYS:

☞ ANGINA PECTORIS

☞ HEART ATTACK

☞ SUDDEN CARDIAC ARREST

CORONARY ARTERY DISEASE

ANGINA

 TEMPORARY (2-15 MIN) CHEST PAIN OR PAIN THAT IS RELIEVED BY REST OR NITROGLYCERIN. OCCURS WHEN NARROWING OF THE CORONARY ARTERY TEMPORARILY PREVENTS AN ADEQUATE SUPPLY OF BLOOD & OXYGEN TO MEET THE DEMANDS OF THE WORKING HEART - HEART MUSCLE IS UNDAMAGED

CORONARY ARTERY DISEASE

☞ HEART ATTACK

☞ *AKA - CORONARY, ACUTE MYOCARDIAL INFARCTION, CORONARY THROMBOSIS*

☞ OCCURS WHEN A BLOOD CLOT SUDDENLY AND COMPLETELY BLOCKS THE ARTERY, RESULTING IN THE DEATH OF HEART MUSCLE CELLS SUPPLIED BY THAT ARTERY

ACTION FOR SURVIVAL

☞ MORE THAN HALF OF ALL HEART ATTACK VICTIMS DIE OUTSIDE OF THE HOSPITAL, MOST WITHIN 2 HOURS OF THE INITIAL SYMPTOMS.

☞ IT IS ESSENTIAL TO KNOW & BE ABLE TO RECOGNIZE THE SIGNALS OF A HEART ATTACK & TAKE APPROPRIATE ACTION.

HEART ATTACK SIGNS AND SYMPTOMS

SIGNALS

-  CHEST DISCOMFORT MOST COMMON SIGN
-  PRESSURE, FULLNESS, SQUEEZING OR PAIN
-  CENTER OF CHEST BEHIND BREASTBONE, SOMETIMES SPREADS TO EITHER NECK, SHOULDER, JAW OR EITHER ARM
-  LASTS LONGER THAN A FEW MINUTES, MAY COME AND GO
-  OTHER SIGNS - LIGHTHEADEDNESS, FAINTING, SWEATING, NAUSEA, SOB

RECOGNIZE A HEART ATTACK

- ☞ IF KNOWN CORONARY ARTERY DISEASE
 - ☞ AT ONSET OF SYMPTOMS
 - ☞ STOP ALL ACTIVITY - REST & RELAX
 - ☞ HELP WITH NITRO ADMIN
 - ☞ 3 TAB MAX
 - ☞ AT 3-5 MIN INTERVALS
 - ☞ IF SYMPTOMS LAST ACTIVATE EMS

RECOGNIZE A HEART ATTACK

- ☞ WITHOUT KNOWN CORONARY ARTERIES DISEASE

- ☞ AT ONSET OF SYMPTOMS

 - ☞ HAVE VICTIM REST QUIETLY/CALMLY

- ☞ IF SYMPTOMS LAST LONGER THAN A FEW MINUTES

 - ☞ ACTIVATE EMS

 - ☞ PUT IN COMFORTABLE POSITION TO MAKE BREATHING EASIER

 - ☞ MONITOR

IMPORTANCE OF PROMPT EMS DURING FIRST SYMPTOM HOUR

- ☞ DIRECTLY RELATES TO CHAIN OF SURVIVAL

- ☞ V-FIB VERY COMMON

- ☞ BLOOD CLOT DISSOLVING DRUGS SHOULD BE GIVEN ASAP

- ☞ AVERAGE DELAY BETWEEN ONSET OF SYMPTOMS AND DECISION TO SEEK MED HELP IS 2-3 HOURS

CORONARY ARTERY DISEASE

- ☞ SUDDEN CARDIAC ARREST

- ☞ HEARTBEAT AND BREATHING STOP ABRUPTLY

- ☞ MAY BE INITIAL AND ONLY MANIFESTATION OF CAD OR HEART ATTACK

- ☞ IF CIRCULATION IS NOT RESTORED

- ☞ BRAIN DAMAGE BEGINS WITHIN 4-6 MIN

- ☞ 10+ MIN BRAIN DEATH CERTAIN

- ☞ MOST COMMONLY OCCURS WITHIN 1 TO 2 HOURS AFTER THE ONSET OF SYMPTOMS

SUDDEN CARDIAC ARREST

CAUSES

-  PRIMARILY CORONARY ARTERY DISEASE
-  ANY CONDITION THAT INTERFERES WITH THE DELIVERY OF OXYGEN OR BLOOD TO THE HEART
 -  IRRITATION OF HEART MUSCLE
 -  PRIMARY RESPIRATORY ARREST
 -  DIRECT INJURY TO THE HEART
 -  DRUGS
 -  DISTURBANCES IN HEART RHYTHM

CORONARY ARTERY DISEASE

☞ THE KEY TO IMPROVED OUTCOME FOR THE VICTIM IS THE BYSTANDER WHO RECOGNIZES THE EMERGENCY AND INITIATES THE CHAIN OF SURVIVAL WHICH INCREASES THE CHANCE OF SURVIVAL GREATLY

INCREASED SURVIVABILITY

👉 IN CPR IS STARTED WITHIN THE FIRST 4 MINS AND DEFIBREILLATION WITHIN 8, CHANCES FOR SURVIVAL ARE INCREASED TO AS MUCH AS 47%

RISK FACTORS

- ☞ RISK FACTORS INCREASE THE CHANCES OF HAVING A HEART ATTACK
- ☞ SOME CAN BE CHANGED OR CONTROLLED AND OTHER CAN'T
- ☞ THE MORE RISK FACTORS ONE HAS THE GREATER THE DANGER OF A HEART ATTACK

RISK FACTORS

☞ AVERAGE RISK = 100

☞ NONE	77
☞ CIGARETTES	120
☞ COGARETTES & CHOLESTEROL	236
☞ CIGARETTES, CHOLESTEROL 384 AND HIGH BLOOD PRESSURE	

RISK FACTORS THAT CANNOT BE CHANGED

☞ GENDER

☞ MALES TO FEMALE RATIO IS
PRESENTLY 60:40

☞ HEREDITY

☞ FAMILY HISTORY

☞ AGE

☞ INCREASED LIFE SPAN - GREATER RISK

RISK FACTORS THAT CAN BE CHANGED

 CIGARETTE SMOKING

 HIGH BLOOD PRESSURE
(HYPERTENSION)

 BLOOD CHOLESTEROL LEVELS

 PHYSICAL INACTIVITY (EXERCISE)

CONTRIBUTING RISK FACTORS

DIABETES

 ELEVATED BLOOD SUGAR LEVELS CAN BE CONTROLLED, BUT THE INCREASED RISK FOR HEART ATTACK CAN'T BE ELIMINATED

OBESITY

STRESS

 MAY BE A MAJOR CONTROLLABLE RISK FACTOR

PRUDENT HEART LIVING

- ☞ A LIFESTYLE THAT MAY MINIMIZE THE RISK OF FUTURE HEART DISEASE
- ☞ REDUCING RISK FACTORS MAY REDUCE THE RISK OF HAVING A HEART ATTACK OR STROKE
- ☞ GOOD GENERAL HEALTH AND FITNESS

PRUDENT HEART LIVING

☞ THERE ARE FIVE SPECIFIC WAYS TO ESTABLISH AND MAINTAIN A PRUDENT HEART LIVING STYLE:

☞ DON'T SMOKE

☞ CONTROL HIGH BLOOD PRESSURE

☞ REDUCE FAT & CHOLESTEROL

☞ EXERCISE

☞ WEIGHT CONTROL

PRUDENT HEART LIVING

SMOKERS

-  HAVE A GREATER RISK OF DYING FROM A VARIETY OF DISEASES THAN NONSMOKERS:
-  TWICE THE RISK OF A HEART ATTACK
-  TWO TO FOUR TIMES THE RISK OF SUDDEN CARDIAC DEATH
-  THE EARLIER THE USE OF TOBACCO THE GREATER THE RISK TO FUTURE HEALTH

PRUDENT HEART LIVING

☞ HIGH BLOOD PRESSURE

☞ CONSISTENTLY 140/90

☞ UNDERLYING CAUSE STILL UNKNOWN

☞ CONTROLLED BY

☞ CHANGES IN DIET

☞ INCREASED EXERCISE

☞ DRUGS - ONCE STARTED CAN'T BE STOPPED

PRUDENT HEART LIVING

- ☞ SATURATED FAT - IN THE FOODS WE EAT

- ☞ (ANIMAL PRODUCTS)

- ☞ ORGAN MEATS, EGG YOLKS

- ☞ CHOLESTEROL - MANUFACTURED BY OUR BODIES -
DEPOSITED IN ARTERIES

- ☞ ATHEROSCLEROSIS - FATTY PLAQUE DEPOSITS

- ☞ SATURATED FAT RAISES BLOOD CHOLESTEROL

- ☞ RED MEAT, BUTTER, CHEESE, CREAM AND
WHOLE MILK

- ☞ SUBSTITUTE POLUNSATURATED FATS

- ☞ LIQUID VEGETABLE OILS

PRUDENT HEART LIVING

- ☞ EXERCISES REGUARLY
- ☞ TONES THE MUSCLES
- ☞ STIMULATES CIRCULATION
- ☞ HELPS PREVENT EXCESS WEIGHT
- ☞ PROMOTES FEELING OF WELL BEING
- ☞ SURVIVAL RATE OF HEART ATTACK VICTIMS IS HIGHER

PRUDENT HEART LIVING

WEIGHT CONTROL

 ADULT WEIGHT REACHED AGE 21-25

 NEED FEWER CALORIES AS WE AGE

 WITHOUT ACTIVITY EXCESS CALORIES
ARE STORED - ADIPOSE TISSUE

 INCREASED LIFE EXPECTANCY AT
IDEAL WEIGHT

 OBESITY INCREASES RISK FOR HIGH
BLOOD PRESSURE, CHOLESTEROL AND
DIABETES AND INACTIVITY

PRUDENT HEART LIVING

DIABETES

 UNTREATED IS A MAJOR HEALTH PROBLEM, MAY RESULT IN DAMAGE TO

 BLOOD VESSELS IN THE HEART

 KIDNETS

 AND OTHER ORGANS

 UNCONTROLLED ASSOCIATED WITH A GREATER RISK OF HEART ATTACK

PRUDENT HEART LIVING

STRESS

 BOTH EMOTIONAL AND PHYSICAL

 PERSONAL TOLERANCE LEVELS SHOULD
BE KNOWN AND NOT EXCEEDED

STROKE

- ➡ RESULT OF A BLOCKAGE OR RUPTURE OF A BLOOD VESSEL. MAY REQUIRE RESCUE BREATHING, CHEST COMPRESSIONS OR BOTH
- ➡ OCCURS IN PEOPLE OF ALL AGES
 - ➡ MOST COMMON IN AGES
- ➡ A LEADING CAUSE OF DEATH AND DISABILITY

STROKE

WARNING SIGNS AND SYMPTOMS

-  SUDDEN WEAKNESS OR NUMBNESS OF FACE, ARM OR LEG ON ONE SIDE OF BODY
-  SPEECH SLURRED OR INCOHERENT
-  UNEXPLAINED DIZZINESS, UNSTEADINESS OR SUDDEN FALLS
-  DIMNESS OR LOSS OF VISION USUALLY IN ONE EYE
-  SUDDEN WORSE HEADACHE OF THEIR LIFE

STROKE

- ☞ TRANSIENT ISCHEMIC ATTACK (TIA) CAUSED BY BLOCKED BLOOD VESSEL OR EMBOLISM
 - ☞ SYMPTOMS LAST LESS THAN 24 HOURS
- ☞ SEEK MEDICAL HELP IMMEDIATELY
 - ☞ TREATMENT CAN PREVENT STROKE
- ☞ SUCCESSFUL TREATMENT LINKED TO
 - ☞ EARLY RECOGNITION
 - ☞ ACTIVATION OF EMS
 - ☞ RAPID TRANSPORT

STROKE

- ☞ FUNDAMENTALS OF BLS IMPORTANT FOR STROKE VICTIMS ESPECIALLY WHEN CONSCIOUSNESS IS IMPAIRED
 - ☞ ACTIVATE EMS
 - ☞ AIRWAY OBSTRUCTION CAN OCCUR
 - ☞ OPEN AIRWAY AND PERFORM RESCUE BREATHING

STROKE

☞ RISK FACTORS THAN CANNOT BE CHANGED

☞ AGE

GENDER

☞ RACE

DIABETES

MELLITUS

☞ PRIOR STROKE HEREDITY

☞ ASYMPTOMATIC CAROTID BRUIT

STROKE

RISK FACTORS THAT CAN BE CONTROLLED

 HIGH BLOOD PRESSURE

 HEART DISEASE

 SIGARETTE SMOKING

 HIGH RED BLOOD CELL COUNT

 TIA'S

STROKE

👉 CINCINNATI HOSPITAL STROKE SCALE

👉 FACIAL DROOP

- 👉 HAVE Pt SMILE OR SHOW TEETH
- 👉 BOTH SIDES MOVE EQUALLY WELL

👉 MOTOR WEAKNESS

- 👉 Pt CLOSES EYES AND HOLDS BOTH ARMS OUT
- 👉 BOTH ARMS MOVE TOGETHER WITHOUT DRIFT

👉 SPEECH

- 👉 HAVE Pt SAY “YOU CAN’T TEACH AN OLD DOG NEW TRICKS”
- 👉 CAN SAY UNSING CORRECT WORDS WITHOUT SLURRING

FOREIGN BODY AIRWAY OBSTRUCTION (FBAO)

 FBAO OR CHOKING CAUSES
APPROXIMATELY **3800** DEATHS PER YEAR

FOREIGN BODY AIRWAY OBSTRUCTION

CAUSES:

-  MOST COMMON CAUSE IN UNCONSCIOUS VICTIM IS TONGUE OR EPIGLOTTIS
-  CHOKING USUALLY OCCURS WHILE EATING WITH MEAT BEING THE MOST COMMON CAUSE
-  CONTRIBUTING FACTORS:
 -  LARGE OR POORLY CHEWED PIECES OF FOOD
 -  ELEVATED BLOOD ALCOHOL LEVELS
 -  DENTURE
 -  OTHER FOREIGN OBJECTS
 -  PLAYING, CRYING, LAUGHING, OR TALKING WHILE FOOD OR FOREIGN BODIES ARE IN THE MOUTH (ESPECIALLY IN CHILDREN)

FOREIGN BODY AIRWAY OBSTRUCTION

PREVENTION:

-  CUT FOOD INTO SMALL PIECES AND CHEW SLOWLY AND THOROUGHLY, ESPECIALLY IF YOU HAVE DENTURES
-  AVOID EXCESSIVE INTAKE OF ALCOHOL
-  AVOID LAUGHING OR TALKING WHILE CHEWING OR SWALLOWING
-  PREVENT CHILDREN FROM PLAYING, WALKING, OR RUNNING WITH FOOD OR OTHER OBJECTS IN THEIR MOUTHS
-  KEEP SMALL FOREIGN OBJECTS (I.E. MARBLES, BEADS, OR THUMBTACKS) AWAY FROM INFANTS AND SMALL CHILDREN. TAKE HEED TO WARNINGS ON TOY LABELS

RECOGNITION OF FOREIGN-BODY AIRWAY OBSTRUCTION

- ☞ RECOGNITION OF FBAO IS THE KEY TO SUCCESSFUL TREATMENT
- ☞ DISTINGUISHING FROM FAINTING, STROKE, HEART ATTACK, DRUG OVERDOSE, OR OTHER CONDITIONS THAT CAUSE RESPIRATORY ARREST IS VITAL DUE TO THE DIFFERENT TYPES OF MANAGEMENT
- ☞ AIRWAY OBSTRUCTION DUE TO SWELLING IS A MEDICAL EMERGENCY AND TIME SHOULD NOT BE WASTED ON ATTEMPTING TO RELIEVE THE OBSTRUCTED AIRWAY

RECOGNITION OF FOREIGN-BODY AIRWAY OBSTRUCTION

DEGREES OF AIRWAY OBSTRUCTIONS

PARTIAL OBSTRUCTION

 GOOD AIR EXCHANGE: FORCEFUL
COUGH, WHEEZING, TALKING **DO NOT**
INTERFERE

 POOR AIR EXCHANGE: WEAK
INEFFECTIVE COUGH, HIGH PITCHED
BREATH SOUNDS, CYANOTIC, CLUTCHES
THROAT (UNIVERSAL DISTRESS SIGNAL)
MANAGE AS COMPLETE
OBSTRUCTION

RECOGNITION OF FOREIGN-BODY AIRWAY OBSTRUCTION

DEGREES OF AIRWAY OBSTRUCTION

COMPLETE OBSTRUCTION

 UNABLE TO SPEAK, BREATH, OR
COUGH

 CLUTCHES NECK (UNIVERSAL
DISTRESS SIGNAL)

 CYANOTIC (BLUISH COLOR)

PEDIATRIC BASIC LIFE SUPPORT

INCIDENCE, CAUSES, PREVENTION, AND
RECOGNITION

PEDIATRIC BASIC LIFE SUPPORT

- ☞ CPR training for pediatrics needs to be a ***community wide*** effort ranging from prevention to postresuscitation
- ☞ Pediatric out-of-hospital cardiopulmonary arrest usually occurs while under the supervision of parents or surrogates

PEDIATRIC BASIC LIFE SUPPORT

Epidemiology:

-  Sudden, primary cardiac arrest is uncommon, usually brought on by respiratory arrest.
-  Pediatric cardiopulmonary arrest usually occurs in opposite ends of the age spectrum - less than one or in adolescence.
-  Most common causes during infancy are intentional or unintentional injury, apparent life-threatening events (SIDS), respiratory diseases, airway obstruction, submersion, sepsis, and neurological diseases.
-  After infancy, injuries are the leading cause.

PEDIATRIC BASIC LIFE SUPPORT INCIDENCE

- ☞ Injury is the leading cause of death in children and young adults and is responsible for more deaths than all other causes
- ☞ Six most common causes of injuries:
 - ☞ Motor vehicle accidents
 - ☞ Bicycle accidents
 - ☞ Pedestrian accidents
 - ☞ Submersion
 - ☞ Burns
 - ☞ Firearm accidents

PEDIATRIC BASIC LIFE SUPPORT CAUSES AND PREVENTION

Motor vehicle injuries

-  related trauma accounts for nearly half of all pediatric injuries and deaths

-  Prevention?

Pedestrian injuries

-  Leading cause of death among children ages 5 to 9 years

-  Prevention?

Bicycle injuries

-  Approximately 200,000 children and adolescents injured yearly

-  Prevention?

PEDIATRIC BASIC LIFE SUPPORT CAUSES AND PREVENTION

Submersion

 Drowning is a significant cause of death and disability in children under 4 years

 Prevention?

Burns

 Approximately 80% of fire and burn-related deaths result from house fires (usually homes without working smoke detectors)

 Prevention?

PEDIATRIC BASIC LIFE SUPPORT CAUSES AND PREVENTION

Firearm injuries

 Firearm homicide is the leading cause of death among African-American adolescents and young adults. Second leading cause of death among all adolescent males

 Prevention?

AUTOMATED EXTERNAL DIFIBRILLATOR

- ☞ DEFIBRILLATION IS THE MOST IMPORTANT BLS OR ALS INTERVENTION
- ☞ 1/2 MIL PEOPLE DIE SUDDENLY/YEAR FROM HEART ATTACKS
 - ☞ 2/3 OF THOSE OUT-SIDE THE HOSPITAL
 - ☞ ARRHYTHMIA'S CAUSE 60-80%
 - ☞ ABNORMAL ELECTRICAL IMPULSE'S
 - ☞ V-FIB IS MOST COMMON

HEART'S ELECTRICAL SYSTEM

- 👉 DISPLAYED BY AN EKG
- 👉 PACEMAKER THE SA NODE (GROUP OF CELLS) CAUSES THE HEART TO BEAT
- 👉 NORMAL RATES
 - 👉 ADULT 60-100
 - 👉 CHILD 80-130
 - 👉 INFANT 80-160

CARDIAC ARREST

- ☞ SA NODE MAY STOP FIRING

- ☞ CAUSES

 - ☞ HEART ATTACK, ELECTROCUTION,
DRUG OVERDOSE, DROWNING

- ☞ OTHER CELLS TRY UNSUCCESSFULLY TO
TAKE OVER SAUSING RAPID
UNCOORDINATED HEART ACTION V-TACK,
WHICH DETERIORATES TO V-FIB THEN
ASYSTOLE (NO ACTION), WITHIN 5-10 MIN

ACTION

- ☞ AN AED WILL SHOCK V-TACK AND V-FIB ONLY
- ☞ SHOCK (POWERFUL ELECTRIC IMPULSES) THAT PARALYZES HEART CELLS TO STOP ABNORMAL ARRYTHMIA'S
- ☞ ALLOWING SA NODE TO TAKE OVER AGAIN
- ☞ CPR IN CARDIAC ARREST PROLONGS V-FIB SO A DEFIBRILLATOR CAN BE USED

AED USE

 USE ONLY WHEN VICTIM IS

 PULSELESS

 NON-BREATHING

 UNCONSCIOUS

 AGE

 OVER 12

 OVER 90 LBS

AED USE

- ☞ CHECK BATTERIES

- ☞ PAD PLACEMENT

 - ☞ UPPER Rt, LOWER Lt

- ☞ ENSURE STILLNESS (STOP CPR)

 - ☞ PRESS ANALYZE - AED READS EKG

 - ☞ IF V-TACK OR V-FIB DETECTED SHOCK IS ADVISED

 - ☞ AT MEDIAL PROTOCOL

 - ☞ 3 SET OF 3 SHOCKS SEPERATED BY 1 MIN OF CPR

AED PRECAUTIONS

- ☞ ENSURE DRY ENVIRONMENT
- ☞ KEEP CLEAR WHEN ASSESSING,
CHARGING
- ☞ FIVE “ALL CLEAR” WHEN SHOCKING
- ☞ AVOID
 - ☞ PACEMAKER IMPLANTS
 - ☞ NITRO PATCHES

☞ QUESTIONS

BARRIER DEVICES FOR MOUTH TO MOUTH

- ☞ Several studies confirm that there is a risk of transmission of pathogens (disease) during exposure to blood, saliva, and other body fluids.
- ☞ Several devices have been developed to minimize such risks to the rescuer.

- ☞ Plastic face shield

- ☞ Silicone face shield

- ☞ mask with or without one-way valves

RISK FACTORS DISEASE TRANSMISSION

👉 OF THE ESTIMATED 40 MIL IN THE U.S. AND PERHAPS 150 MIL WORLDWIDE THAT HAVE BEEN TAUGHT MOUTH-TO-MOUTH RESCUE BREATHING ON MANNEQUINS IN THE LAST 25 YEARS, THERE HAS NEVER BEEN A DOCUMENTED CASE OF TRANSMISSION OF BACTERIAL, FUNGAL OR VIRAL DISEASE BY A CPR TRAINING MANNEQUIN.

ADULT ONE-RESCUER CPR

1. Establish unresponsiveness.
Activate the EMS system.
 2. Open airway (head tilt-chin lift or jaw thrust).
Check breathing (look, listen, feel).*
 3. Give 2 slow breaths (1 1/2 to 2 seconds per breath),
watch chest rise, allow for exhalation between breaths.
 4. Check carotid pulse.
If breathing is absent but pulse is present, provide rescue
breathing (1 breath every 5 seconds, about 12 breaths per min)
 5. If no pulse, give cycles of 15 chest compressions (rate, 80 to 100
compressions per minute) followed by 2 slow breaths.
 6. After 4 cycles of 15:2 (about 1 minute), check pulse.* If no
pulse, continue 15:2 cycle beginning with chest compressions.
- * If victim is breathing or resumes effective breathing, place in
recovery position.

ADULT TWO-RESCUER CPR

1. Establish unresponsiveness.
EMS System has been activated.

RESCUER 1

2. Open airway (head tilt-chin lift or jaw thrust).
Check breathing (look, listen, feel).*
3. Give 2 slow breaths (1 1/2 to 2 seconds per breath), watch chest rise, allow for exhalation between breaths.
4. Check carotid pulse.

RESCUER 2

5. If no pulse, give cycles of 5 chest compressions (rate, 80 to 100 compressions per minute) followed by 1 slow breath by Rescuer 1.
6. After 1 minute of rescue support, check pulse.* If no pulse, continue 5:1 cycles.

* If victim is breathing or resumes effective breathing, place in recovery position.

ADULT FOREIGN-BODY AIRWAY OBSTRUCTION - CONSCIOUS

1. Ask “Are you choking?”
2. Give abdominal thrusts (chest thrusts for pregnant or obese victim).
3. Repeat thrusts until effective or victim becomes unconscious.

VICTIM BECOMES UNCONSCIOUS

4. Activate the EMS system.
5. Perform a tongue-jaw lift followed by a finger sweep to remove the object.
6. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
7. Give up to 5 abdominal thrusts.
8. Repeat steps 5 through 7 until effective.*

* If victim is breathing or resumes effective breathing, place in recovery position.

ADULT FOREIGN-BODY AIRWAY OBSTRUCTION - UNCONSCIOUS

1. Establish unresponsiveness.
Activate the EMS system.
2. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
3. Give up to 5 abdominal thrusts.
4. Perform a tongue-jaw lift followed by a finger sweep to remove the object.
5. Repeat steps 2 through 4 until effective.*

* If victim is breathing or resumes effective breathing, place in recovery position.

CHILD ONE-RESCUER CPR

1. Establish unresponsiveness.
If second rescuer is available, have him or her activate the EMS system.
 2. Open airway (head tilt-chin lift or jaw thrust).
Check breathing (look, listen, feel).*
 3. Give 2 slow breaths (1 to 1 1/2 seconds per breath),
watch chest rise, allow for exhalation between breaths.
 4. Check carotid pulse.
If breathing is absent but pulse is present, provide rescue breathing (1 breath every 3 seconds, about 20 breaths per min)
 5. If no pulse, give cycles of 5 chest compressions (100 compressions per min) followed by 1 slow breath. Repeat this cycle.
 6. After about 1 min of rescue support, check pulse.* If rescuer is alone, activate the EMS system. If no pulse, continue 5:1 cycles.
- * If victim is breathing or resumes effective breathing, place in recovery position.

CHILD FOREIGN-BODY AIRWAY OBSTRUCTION - CONSCIOUS

1. Ask “Are you choking?”
2. Give abdominal thrusts.
3. Repeat thrusts until effective or victim becomes unconscious.

VICTIM BECOMES UNCONSCIOUS

4. If second rescuer is available, have him or her activate the EMS system.
5. Perform a tongue-jaw lift, and if you see the object, perform a finger sweep to remove it.
6. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
7. Give up to 5 abdominal thrusts.
8. Repeat steps 5 through 7 until effective.*
9. If airway obstruction is not relieved after about 1 min, activate EMS system.

* If victim is breathing or resumes effective breathing, place in recovery position.

CHILD FOREIGN-BODY AIRWAY OBSTRUCTION - UNCONSCIOUS

1. Establish unresponsiveness. If second rescuer is available, have him or her activate the EMS system.
 2. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
 3. Give up to 5 abdominal thrusts.
 4. Perform a tongue-jaw lift, and if you see the object, perform a finger sweep to remove it.
 5. Repeat steps 2 through 4 until effective.*
 6. If airway obstruction is not relieved after about 1 min, activate EMS system.
- * If victim is breathing or resumes effective breathing, place in recovery position

INFANT ONE-RESCUER CPR

1. Establish unresponsiveness.

If second rescuer is available, have him or her activate the EMS system.

2. Open airway (head tilt-chin lift or jaw thrust).

Check breathing (look, listen, feel).*

3. Give 2 slow breaths (1 to 1 1/2 seconds per breath), watch chest rise, allow for exhalation between breaths.

4. Check brachial pulse.

If breathing is absent but pulse is present, provide rescue breathing (1 breath every 3 seconds, about 20 breaths per min)

5. If no pulse, give cycles of 5 chest compressions (rate, at least 100 compressions per min) followed by 1 slow breath. Repeat this cycle.

6. After about 1 min of rescue support, check pulse.* If rescuer is alone, activate the EMS system. If no pulse, continue 5:1 cycles.

* If victim is breathing or resumes effective breathing, place in recovery position.

INFANT FOREIGN-BODY AIRWAY OBSTRUCTION - CONSCIOUS

1. Confirm complete airway obstruction.
Check for serious breathing difficulty, ineffective cough, *no* strong cry.
2. Give up to 5 back blows and 5 chest thrusts.
3. Repeat step 2 until effective or victim becomes unconscious.

VICTIM BECOMES UNCONSCIOUS

4. If second rescuer is available, have him or her activate the EMS system.
 5. Perform a tongue-jaw lift, and if you see the object, perform a finger sweep to remove it.
 6. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
 7. Give up to 5 back blows and 5 chest thrusts.
 8. Repeat steps 5 through 7 until effective.*
 9. If airway obstruction is not relieved after about 1 min, activate EMS system.
- * If victim is breathing or resumes effective breathing, place in recovery position.

INFANT FOREIGN-BODY AIRWAY OBSTRUCTION - UNCONSCIOUS

1. Establish unresponsiveness. If second rescuer is available, have him or her activate the EMS system.
 2. Open airway and try to ventilate; if still obstructed, reposition head and try to ventilate again.
 3. Give up to 5 back blows and 5 chest thrusts.
 4. Perform a tongue-jaw lift, and if you see the object, perform a finger sweep to remove it.
 5. Repeat steps 2 through 4 until effective.*
 6. If airway obstruction is not relieved after about 1 min, activate EMS system.
- * If victim is breathing or resumes effective breathing, place in recovery position.

REVIEW

REVIEW

☞ WHAT IS THE CHAIN OF SURVIVAL?

☞ WHAT ARE THE RATIOS OF COMPRESSIONS TO VENTILATIONS FOR AN INFANT, CHILD, & ADULT?

☞ DURING CPR HOW OFTEN SHOULD YOU CHECK FOR A PULSE?

☞ WHAT CAUSES GASTRIC DISTENTION?

REVIEW

☞ WHAT METHOD IS PREFERRED FOR OPENING THE AIRWAY?

☞ WHERE DO YOU CHECK FOR A PUSLE ON AN INFANT, CHILD, & ADULT?

☞ HOW OFTEN SHOULD YOU BREATH FOR A CHILD WITH A PULSE?

REVIEW

👉 WHAT IS THE FIRST THING YOU SHOULD DO IF A PULSE IS NOT PRESENT ON A CHILD?

👉 WHAT IS THE AGE GUIDELINES FOR INFANT, CHILD, & ADULTS FOR CPR?

👉 WHAT IS THE “GOOD SAMARITAN” LAW?